FIG. 1

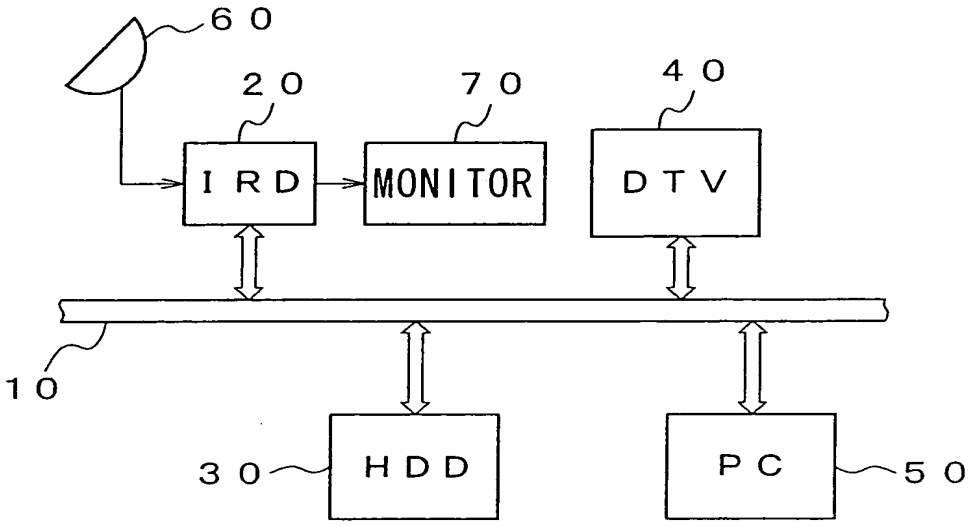

FIG. 2

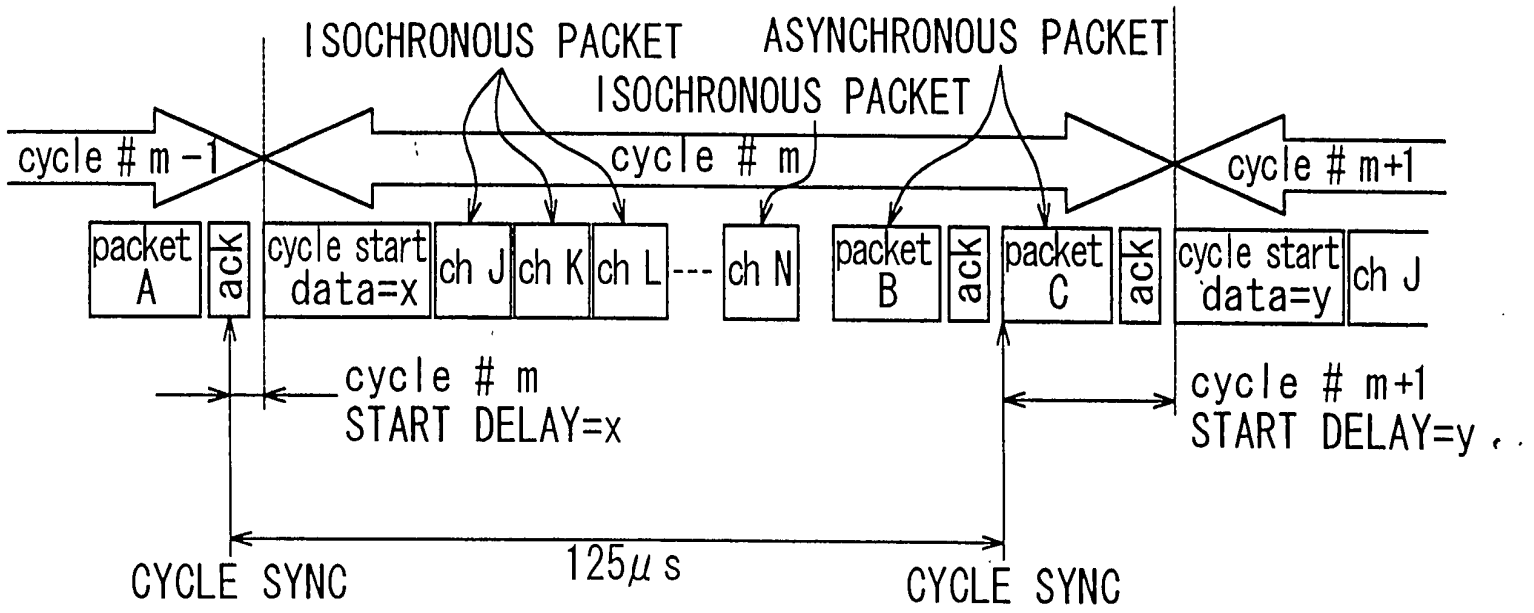

FIG. 3

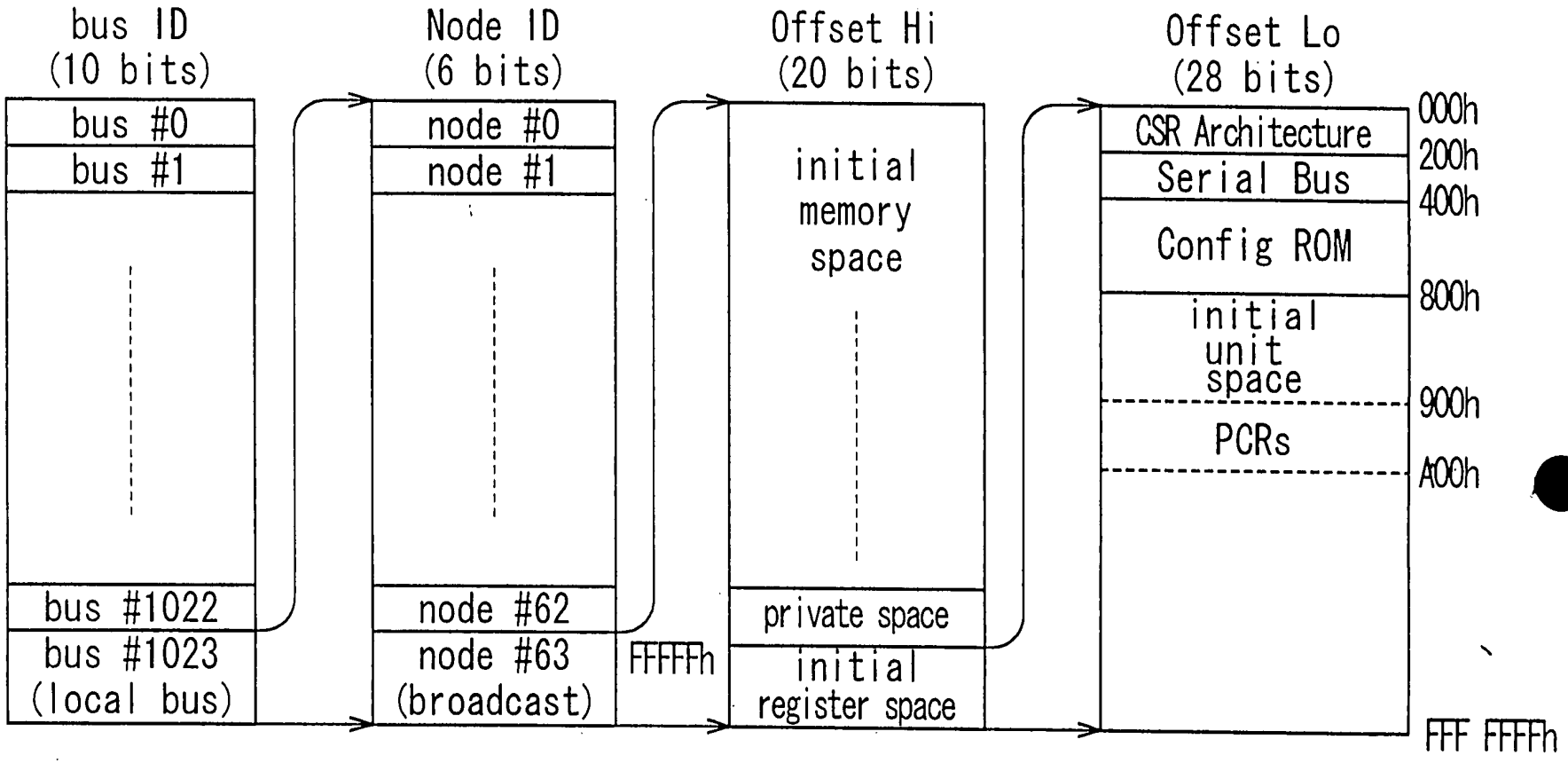
bus ID
(10 bits)
bus #0
bus #1
bus #1022
bus #1023
(local bus)
Node ID
(6 bits)
node #0
node #1
node #62
node #63
(broadcast)
FFFFFh
Offset Hi
(20 bits)
initial
memory
space
private space
initial
register space
Offset Lo
(28 bits)
CSR Architecture
Serial Bus
Config ROM
initial
unit
space
PCRs
000h
200h
400h
800h
900h
A00h
FFF FFFFh

FIG. 4

| OFFSETS | NAMES | FUNCTIONS |
|---|---|---|
| 000h | STATE_CLEAR | STATE AND CONTROL INFORMATION |
| 004h | STATE_SET | SET STATE_CLEAR BIT |
| 008h | NODE_IDs | INDICATE 16-BIT NODE ID |
| 00Ch | RESET_START | START COMMAND RESET |
| 018h-01Ch | SPLIT_TIMEOUT | PRESCRIBE MAXIMUM TIME OF SPLIT |
| 200h | CYCLE_TIME | CYCLE TIME |
| 210h | BUSY_TIMEOUT | PRESCRIBE LIMIT OF RETRY |
| 21Ch | BUS_MANAGER | INDICATE BUS MANAGER ID |
| 220h | BANDWIDTH_AVAILABLE | INDICATE BANDWIDTH THAT CAN BE ASSIGNED TO ISOCHRONOUS COMMUNICATION |
| 224h-228h | CHANNELS_AVAILABLE | INDICATE USED STATE OF EACH CHANNEL |

FIG. 5

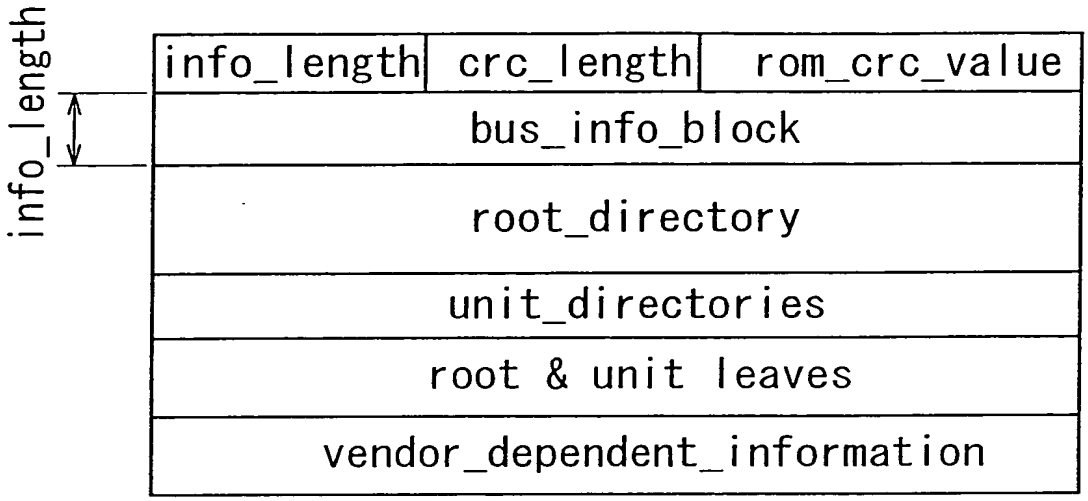
info_length
info_length
crc_length
rom_crc_value
bus_info_block
root_directory
unit_directories
root & unit leaves
vendor_dependent_information

FIG. 6

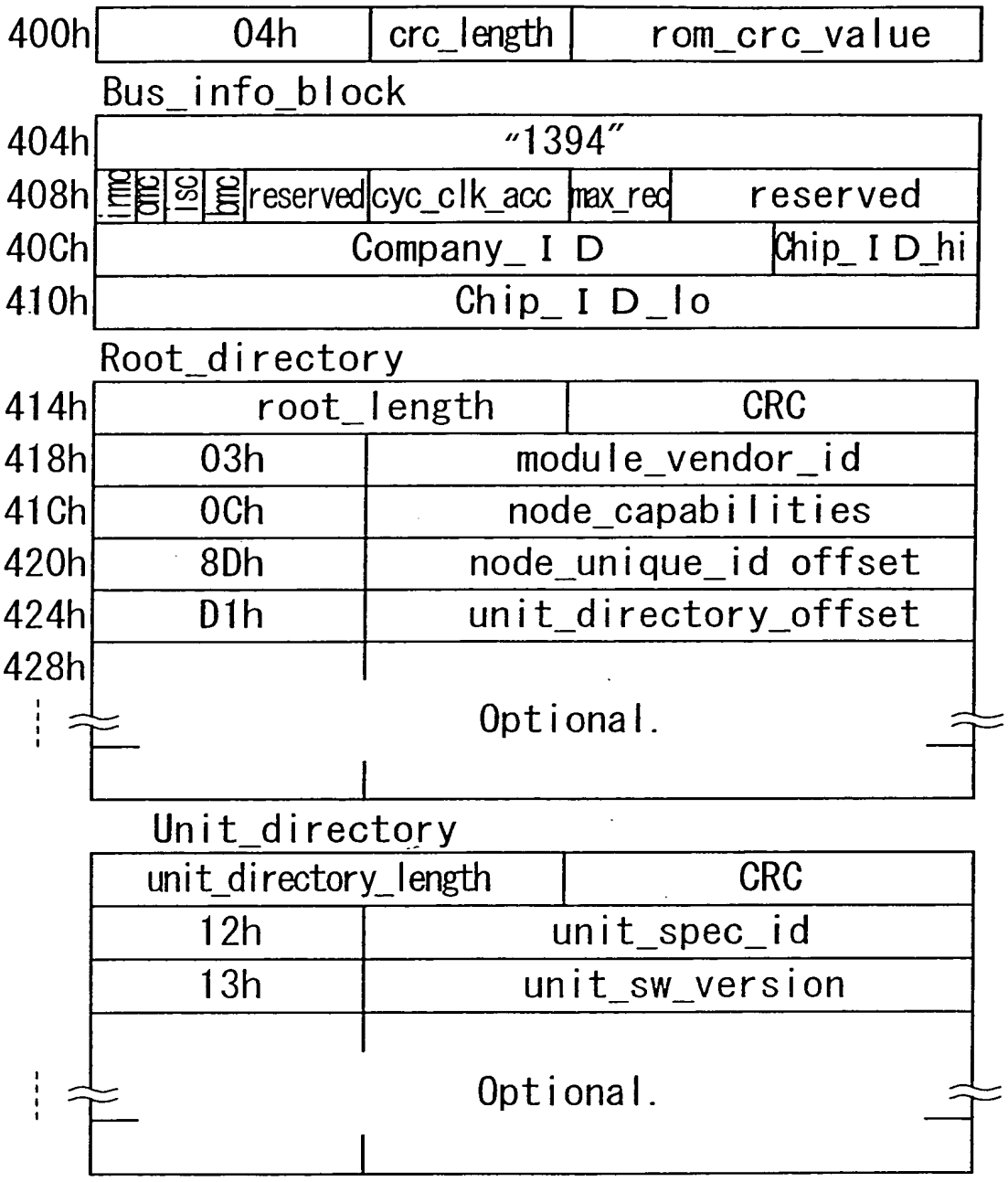
400h
04h
crc_length
rom_crc_value
Bus_info_block
404h
"1394"
408h
irmc
cmc
isc
bmc
reserved
cyc_clk_acc
max_rec
reserved
40Ch
Company_ I D
Chip_ I D_hi
410h
Chip_ I D_lo
Root_directory
414h
root_length
CRC
418h
03h
module_vendor_id
41Ch
0Ch
node_capabilities
420h
8Dh
node_unique_id offset
424h
D1h
unit_directory_offset
428h
Optional.
Unit_directory
unit_directory_length
CRC
12h
unit_spec_id
13h
unit_sw_version
Optional.

FIG. 7

| | |
|---|---|
| 900h | Output Master Plug Register |
| 904h | Output Plug Control Register #0 |
| 908h | Output Plug Control Register #1 |
| ⋮ | ⋮ |
| 97Ch | Output Plug Control Register #30 |
| 980h | Input Master Plug Register |
| 984h | Input Plug Control Register #0 |
| 988h | Input Plug Control Register #1 |
| ⋮ | ⋮ |
| 9FCh | Input Plug Control Register #30 |

FIG. 8

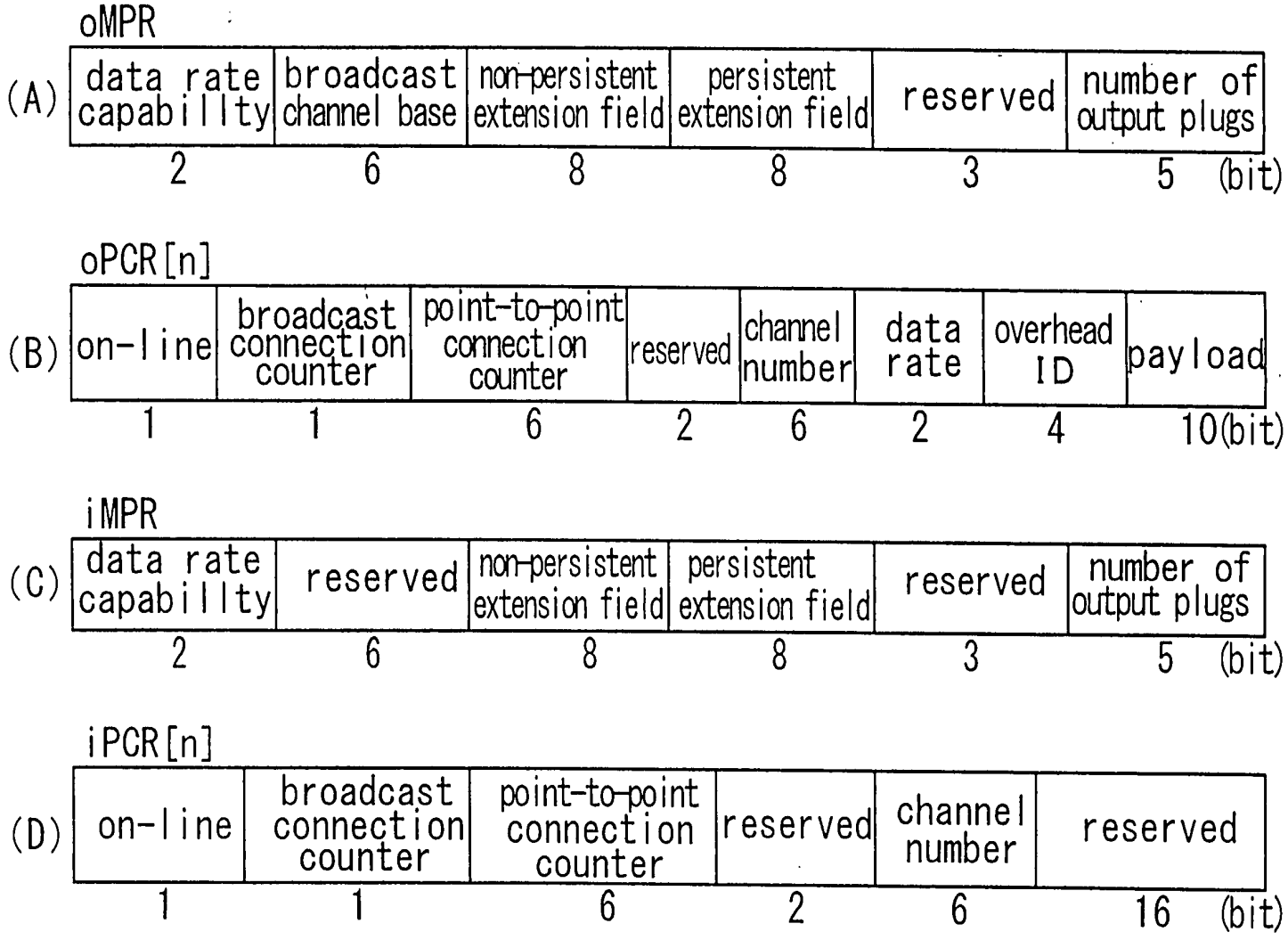
oMPR
(A)
data rate capabillty
broadcast channel base
non-persistent extension field
persistent extension field
reserved
number of output plugs
2
6
8
8
3
5
(bit)
oPCR[n]
(B)
on-line
broadcast connection counter
point-to-point connection counter
reserved
channel number
data rate
overhead ID
payload
1
1
6
2
6
2
4
10(bit)
iMPR
(C)
data rate capabillty
reserved
non-persistent extension field
persistent extension field
reserved
number of output plugs
2
6
8
8
3
5
(bit)
iPCR[n]
(D)
on-line
broadcast connection counter
point-to-point connection counter
reserved
channel number
reserved
1
1
6
2
6
16
(bit)

FIG. 9

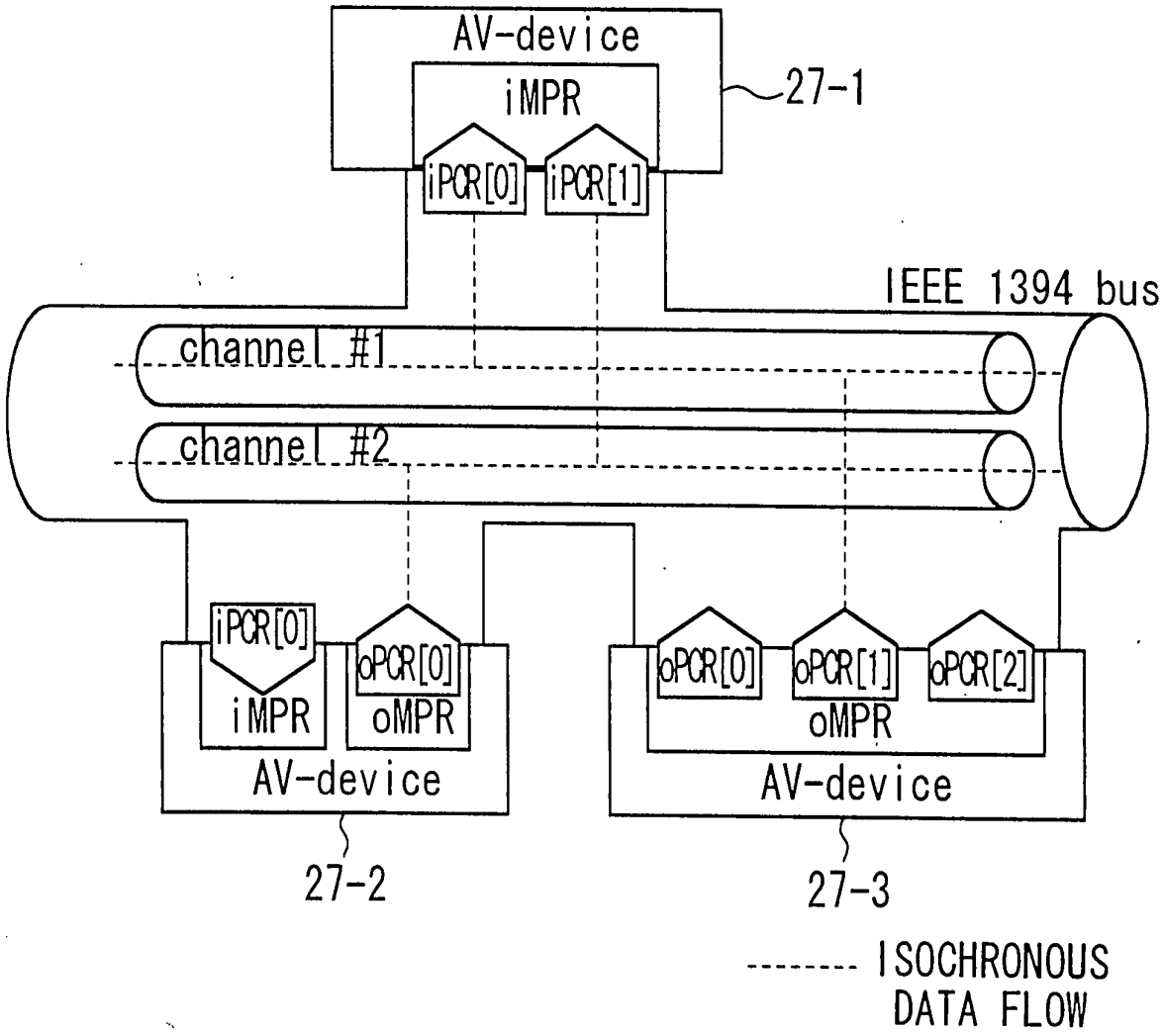
AV-device
iMPR
27-1
iPCR[0]
iPCR[1]
IEEE 1394 bus
channel #1
channel #2
iPCR[0]
oPCR[0]
iMPR
oMPR
AV-device
27-2
oPCR[0]
oPCR[1]
oPCR[2]
oMPR
AV-device
27-3
ISOCHRONOUS DATA FLOW

FIG. 10

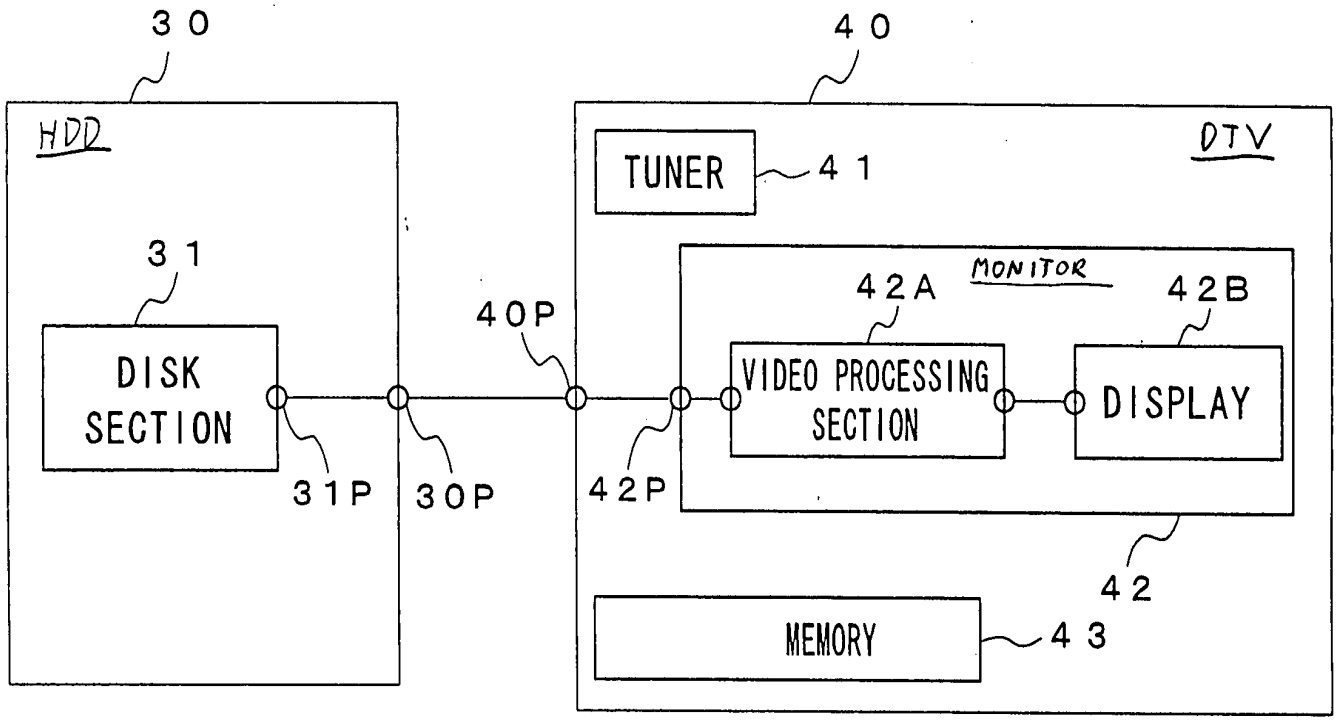

FIG. 11

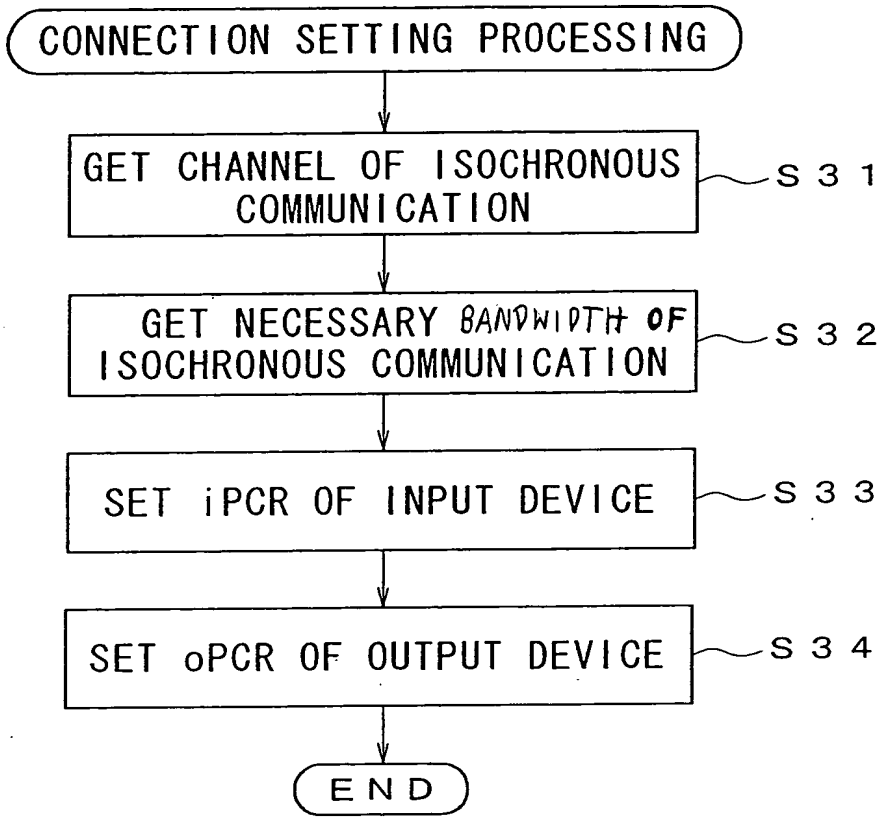
CONNECTION SETTING PROCESSING
GET CHANNEL OF ISOCHRONOUS COMMUNICATION
S31
GET NECESSARY BANDWIDTH OF ISOCHRONOUS COMMUNICATION
S32
SET iPCR OF INPUT DEVICE
S33
SET oPCR OF OUTPUT DEVICE
S34
END

FIG. 12

| Monitor Subunit dependent information | |
|---|---|
| Address offset | Contents |
| $0000_{16}$ | Subunit_dependent_length=33bytes |
| $0001_{16}$ | |
| | Datastructure_type=Monitor subunit dependent information |
| | Audio_subunit_version=FF(hex) |
| | Monitor_subunit_version=10(hex) |
| | Number_of_configuration_dependent_information=1 |
| | Configuration_dependent_length=26bytes |
| | |
| | Datastructure_type=Configuration_Information |
| | |
| | Config_ID=1 |
| | Master_cluster_information |
| | Number_of_source_plug=0 |
| | number_of_fb_dependent_information=2 |
| | fb_dependent_length=10bytes |
| | |
| | Datastructure_type=FB_dependent_information |
| | |
| | fb_type=video_feature |
| | fb_ID=1 |
| | fb_name=FF |
| | number_of_destination_plug=1 |
| | Source_ID(1)=subunit destination plug 1 |
| | cluster_information=same as up stream |
| | fb_dependent_length=10bytes |
| | |
| | Datastructure_type=FB_dependent_information |
| | |
| | fb_type=display |
| | fb_ID=2 |
| | fb_name=FF |
| | number_of_destination_plug=1 |
| | Source_ID(1)=fb_type;video feature,fb_ID;1 |
| | cluster_information=none |

FIG. 13 (RELATED ART)

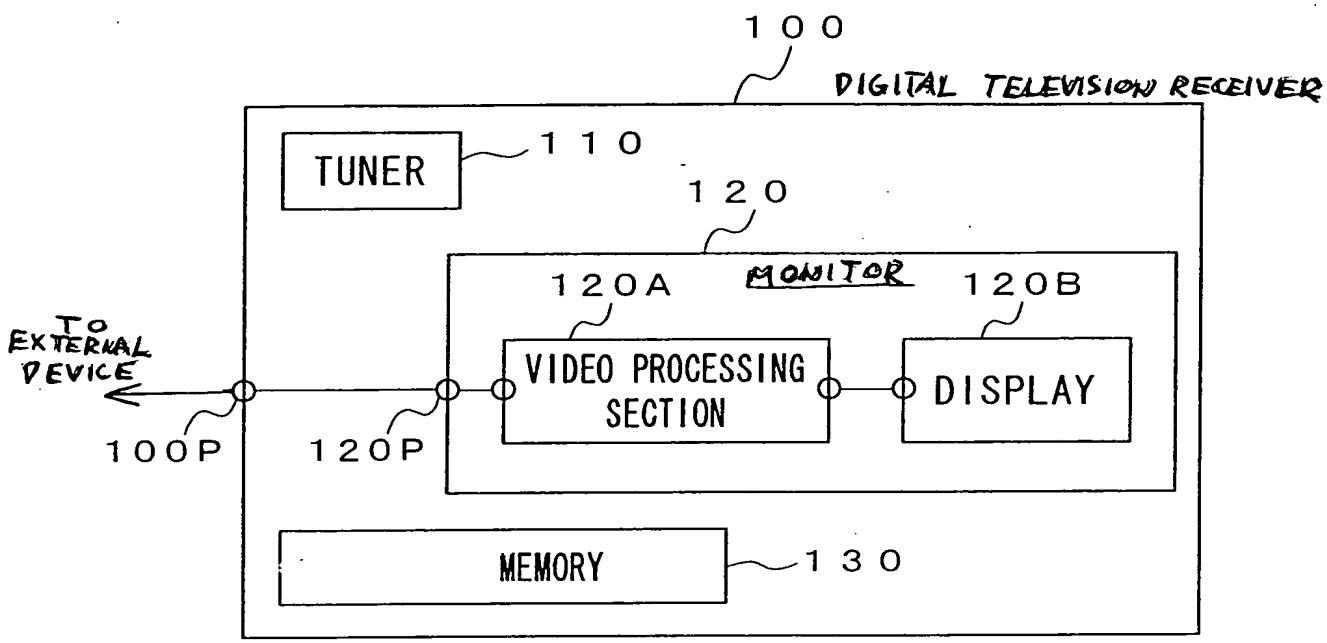

FIG. 14 (RELATED ART)

| Monitor Subunit dependent information | |
|---|---|
| Address offset | Contents |
| $0000_{16}$ | Subunit_dependent_length=25bytes |
| $0001_{16}$ | |
| | Datastructure_type=Monitor subunit dependent information |
| | |
| | Audio_subunit_version=FF(hex) |
| | Monitor_subunit_version=10(hex) |
| | Number_of_configuration_dependent_information=1 |
| | Configuration_dependent_length=19bytes |
| | |
| | |
| | Datastructure_type=Configuration_Information |
| | |
| | Config_ID=1 |
| | Master_cluster_information |
| | Number_of_source_plug=0 |
| | Number_of_fb_dependent_information=1 |
| | fb_dependent_length=10bytes |
| | |
| | Datastructure_type=FB_dependent_information |
| | |
| | fb_type=video_feature |
| | fb_ID=1 |
| | fb_name=FF |
| | Number_of_destination_plug=1 |
| | Source_ID(1)=subunit destination plug 1 |
| | cluster_information=same as up stream |